

alleged admissions in our specification, to come up with our disinfectant agent for combating and inactivating phytopathogenic organisms that are present on plants.

Applicants submitted a signed Rule 132 Declaration on October 23, 2002 which provided evidence in the form of an expert's report that disinfectants like those of the prior art are destructive to plants, even if the disinfectants are compatible with human skin. It also provided evidence in the form of a laboratory notebook pages documenting that disinfectants like those of the prior art are destructive to plants, even if the disinfectants are useful to treat hard surfaces surrounding the plant. This data and report supports our statement in a previous Amendment that "in the course of deployment of these preparations on living plants during the testing for any side-effects on plants, the test plants showed severe damage in the form of burns. Thus, such compositions would not be expected to be useful to combat phytopathogens."

In the Advisory Action, the Examiner apparently discounted the Declaration:

"The declaration submitted under 37 CFR 1.132 does not compare the instant composition to the composition of the prior art. The declaration shows data based on a product comprising lactic and benzoic acid, and a sodium salt of an alkyl sulfonate. This product is not described in any of the prior art references cited in the office actions. Note that the declaration does not clearly and convincingly show that the product herein has exhibited unexpected results in comparison with the prior art references."

We are filing here a Request for Continued Examination, in which we request entry of the September 23, 2002 and October 23, 2002 submissions, as well as consideration of the following remarks which we hope will clarify matters.

As noted in our earlier Amendment, the efficacious properties of the claimed agents are positively recited in our claims. We reiterate that our invention is something that is not taught by the prior art—a composition that has pronounced microbiocide effectiveness on plants and hard surfaces surrounding the plants, but which does not damage plants cells (including roots, stalks, leaves, blooms and fruits) even during a concentrated application of our composition, and does not leave phytotoxic residues on the hard surfaces. This alone, we believe, is sufficient to distinguish our claims from anything taught by the cited references.

We pointed out in our last Amendment that, while certain combinations of anionic tensides, aliphatic and aromatic carbonic acids as well as a few special heteroaromatic acids as described in the German references DE OS 3227126 and DE 3229097 may destroy or inactivate animals, bacteria and fungus, these disinfectants are designed for use in households and in the food sector. Moberg's mixtures are carbonic acids having up to 10 carbon atoms, or the corresponding salts, as well as terylenes that are useful as cleaning agents, disinfectants, surface treatments, impregnation preparations or for anti-microbiological treatment. Such agents are taught to be useful on human skin or surfaces such as wood. We also noted that none of these references describe a disinfecting agent for combating and inactivating phytopathogenic organisms that are present on plants or in a plant's surroundings, as required by independent claims 11 and 22 and all the dependent claims. As we stated :

Someone having ordinary skill in this art at the time of our invention would not have reasonably concluded that certain components described by DE OS 3227126 and DE 3229097 could be combined with certain other components described by Moberg—all of which are said to be useful against **human or zoological** pathogens—to achieve a disinfecting composition having a high degree of effectiveness against **phytopathogenic** organisms. The cell structure and metabolisms of plants and animals are completely different, and the ability of an agent to combat a human/animal germ (without injuring the human/animal) is no prediction that it will work effectively for plant germs (without injuring the plant). A preparation that may be used effectively on the skin of a baby and which produces no side effects, may cause severe damage and even destruction for a plant.

In response to this, the Examiner has argued, especially with regard to claim 22, that "two agents [of the prior art] known to be useful in a method of combating microorganisms would be reasonably expected to be useful in combating pathogenic microorganisms regardless of the host. The two agents, singly or in combination, would be expected to exhibit antipathogenic activities, regardless of its cause." (See page 5 of the April 23, 2002 Office Action.)

We first respectfully submit that the Examiner appears to have overlooked a simple fact: that the effect of disinfectants on living cells is not comparable to the effect of disinfectants on non-living material (such as plastic)—a living cell can be destroyed by a disinfectant, while a plastic surface of course cannot be. Thus, obviously, the

argument  
is  
based on  
animals  
not  
non-living  
material

effectiveness of a particular substance to disinfect non-living material can not generally be extrapolated to its effectiveness to disinfect living cells. For example, the holds of ships are fumigated with phosphoretted hydrogen or cyan hydrogen in order to destroy microorganisms (in addition to vermin), and it is safe to say that a living organism would not survive this kind of treatment.

Furthermore, for purposes of determining the effectiveness and usefulness of a disinfectant, animals (including humans) are not readily comparable to plants. For instance, plant cells contain chloroplasts—which are not found in animal cells—so that plant cells are consequently capable of photosynthesis.

Referring now to our Rule 132 Declaration, the severe damage sustained by the euphorbias was, in the majority of the cases, of chlorosis-like appearance, which indicates that the agent used interfered specifically in the metabolism of the chloroplasts, and thus in photosynthesis.

Now, it is of course the case that if one tests a disinfectant such as the one described in the declaration evidence against animal/human pathogenic organisms or against plant pathogenic organisms, the effects will be manifested in such living organisms—as was the case in the Declaration evidence.

All three references cited by the Examiner (DE OS 3227126, DE 3229097 and Moberg WO 96/11572) exclusively describe the use of human or animal pathogenic organisms or viruses, and understandably deal with human skin or human tissue or with non-living material such as plastics, textiles or wood. With these references in hand—that is, with the knowledge that organic acids and anionic tensides or organic acids and diols are effective when used against human or animal skin—someone having ordinary skill in this art would not readily assume that such substances would also be effective against plant pathogens AND that such substances would be tolerated by plants without any symptoms. No microbiologist would make that jump, based simply on the information provided by these three references.

As stated in the specification, disinfectants based on organic acids and anionic tensides were familiar in the field of body and surface disinfecting. The applicants themselves had the “Menno-Cycla 2” product on the market, which contained benzoic

acid and lactic acid together with sodium salt of an alkyl sulfonate with an average chain length of C12- C14 in aqueous solution—and which lead to the euphorbia disaster.

In light of all this, we believe that the most relevant state of the art is represented by DE 3229097. The main claim 1 of this publication relates to a microbiocide agent containing organic acids and primary and/or secondary alkyl sulfonates and/or sulfates with 8 to 18 carbon atoms in the alkyl group, the cation of which comprises an alkali metal, amines or ammonium compounds. This subject matter of this claim corresponds exactly to the products that the applicants brought onto the market at that time. According to claim 6 of this publication, the organic acid is preferably benzoic acid in conjunction with another acid (such as tartaric acid), whereas the applicants' product contained benzoic acid and lactic acid (also a hydroxy carbon acid). Thus, the "Menno-Cycla 2" product falls directly within the scope of claim 1 of the DE 3229097 publication. We submit, then, that the Rule 132 Declaration does in fact appropriately compare the instant composition to the composition of the prior art.

In addition, we respectfully submit that the Examiner is incorrect in another line of argumentation. Specifically, the Examiner has reasoned that if someone skilled in this art knows that a product comprising A + B is effective as a disinfectant, and also knows that A + C may be used as a disinfectant, it would be obvious to combine A + B + C to increase the effect. However, this was not the "problem to be solved" by the invention in question, nor how it came to be developed. The actual problem was the general intolerability of the product comprising A + B, which only comes to light as a systemic detriment after a period of days—so that no one could have predicted that the addition of diols would not have much bearing on the disinfectant effect but would have a serious effect with regard to tolerability. When developing the claimed composition, the applicants tested almost 100 substances to improve the tolerability among plants, and during all these series of tests only diols served to improve tolerability. This was indeed a great surprise to the researchers, and by no means predictable—especially by any of DE OS 3227126, DE 3229097 and Moberg WO 96/11572.

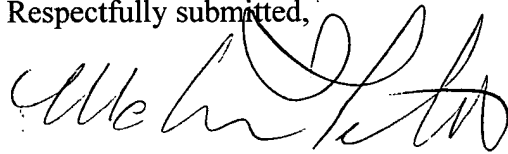
In conclusion, we respectfully submit that our claimed invention is clearly distinguished from anything taught or suggested by the cited references. Reconsideration of this rejection is therefore requested.

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In summary, all of the Examiner's outstanding rejections and objections have been addressed, and the application is believed to be in allowable form. Notice to that effect is earnestly solicited.

If the Examiner has any questions or would like to make suggestions as to claim language, she is encouraged to contact Marlana K. Titus at (301) 762-8214.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Marlana K. Titus', written in a cursive style.

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